[The Tinkhell.]

"Through heather, mosse, mongst frogs, and bogs and fogs,
'Mongst craggy cliffes, and thunder-battered hills,
Hares, hinds, bucks, roes, are chas'd by men and dogs."
Taylor's *Sonnet.*

TAYLOR'S PENNYLESS PILGRIMAGE.

[Concluded from page 485.]

The Water-poet proceeds to Dunfermline. He goes also to see Sir George Bruce's coal-mine, of which he speaks in terms which may sound somewhat extravagant in the present day. The Castle of Stirling he compares to Windsor for situation; and the hall surpasses all the halls he ever saw. From Stirling he rode to St. Johnston (Perth), where his host told him that the Earl of Mar and Sir William Murray were gone to the great hunting at "the Brea of Mar." The Londoner's surprise when he gets into the land of mountains is highly amusing. "Shooter's Hill, Gadshill, Highgate Hill, Hampstead Hill, are but mole-hills in comparison." But in the midst of these mountains he saw a sight that was well worth his journey from London. He was in the midst of a goodly company of Highland chieftains, bearing the honoured names of Erskine, Stuart, Gordon, Murray, with hundreds of other knights, esquires, and their followers. The modern deer-drives, such as are described by Mr. Scrope in his delightful book on Deer-Stalking, are small matters compared with the mighty hunt at which the Water-poet was present. He tells his story well; and we will not injure it by curtailment:—"For once in the year, which is the whole month of August, and sometimes part of September, many of the nobility and gentry of the kingdom (for their pleasure) do come into those Highland countries to hunt, where they do conform themselves to the habit of the Highlandmen, who for the most part speak nothing but Irish; and in former time were those people which were called the Red-shanks. Their habit is shoes with but one sole a-piece; stockings (which they call short-hose) made of a warm stuff of divers colours, which they call tartan; as for breeches, many of them, nor their forefathers, never wore any, but a jerkin of the same stuff that their hose is of, their garters being bands or wreaths of hay or straw, with a plaid about their shoulders, which is a mantle of divers colours, much finer and lighter stuff than their hose, with blue flat caps on their heads, a handkerchief knit with two knots about their neck; and thus are they attired. Now

their weapons are long bows and forked arrows, swords and targets, harquebusses, muskets, dirks, and Lochaber axes. With these arms I found many of them armed for the hunting. As for attire, any man of what degree soever that comes amongst them, must not disdain to wear it; for if they do, they will disdain to hunt, or willingly to bring in their dogs: but if men be kind unto them, and be in their habit, then are they conquered with kindness, and the sport will be plentiful. This was the reason that I found so many noblemen and gentlemen in those shapes. But to proceed to the hunting.

"My good Lord of Mar having put me into that shape, I rode with him from his house, where I saw the ruins of an old castle, called the Castle of Kindroghit. It was built by King Malcolm Canmore (for a hunting house), who reigned in Scotland when Edward the Confessor, Harold, and Norman William reigned in England: I speak of it because it was the last house that I saw in those parts; for I was the space of twelve days after, before I saw either house, corn-field, or habitation of any creature, but deer, wild horses, wolves, and such like creatures, which made me doubt that I should never have seen a house again.

"Thus the first day we travelled eight miles, where there were small cottages, built on purpose to lodge in, which they call 'lanquhards.' I thank my good Lord Erskine, he commanded that I should always be lodged in his lodging, the kitchen being always on the side of a bank, many kettles and pots boiling, and many spits turning and winding, with great variety of cheer, as venison baked, sodden, roast, and stewed beef, mutton, goats, kid, hares, fresh salmon, pigeons, hens, capons, chickens, partridge, moorcoots, heathcocks, caperkellies, and termagants (ptarmigan); good ale, sack, white, and claret, tent (or allegant), with most potent aqua-vitæ.

"All these, and more than these, we had continually in superfluous abundance, caught by falconers, fowlers, fishers, and brought by my lord's tenants and purveyors to victual our camp, which consisteth of fourteen or fifteen men and horses. The manner of the hunting is this: five or six hundred men do rise early in the morning, and they do disperse themselves divers ways; and seven, eight, or ten miles compass, they do bring or chase in the deer in many herds (two, three, or four hundred in a herd) to such or such a place as the noblemen shall appoint them; then when the day is come, the lords and gentlemen of their companies do ride or go to the said places, sometimes wading up to the middle through bourns and rivers: and then they being come to the place, do lie down on the ground till those foresaid scouts, which are called the Tinkhell, do bring down the deer. But as the proverb says of a bad cook, so these Tinkhell men do lick their own fingers; for besides their bows and arrows, which they carry with them, we can hear now then a harquebuss or a musket go off, which they do seldom discharge in vain. Then after we had stayed there three hours or thereabouts, we might perceive the deer appear on the hills round about us (their heads making a show like a wood), which being followed close by the Tinkhell, are chased down into the valley where we lay; then all the valley on each side being way-laid with a hundred couple of strong Irish greyhounds, they are let loose as occasion serves upon the herd of deer, that with dogs, guns, arrows, dirks, and daggers, in the space of two hours, four score fat deer were slain, which after are disposed of some one way, and some another, twenty and thirty miles, and more than enough left for us to make merry withal at our rendezvous."

The sport was so exciting to the pilgrim, that he produced two sonnets on the occasion, one of which, at least, does no discredit to his versifying abilities. But the best part of the sport for Taylor, with all his poetical sympathy, is clearly the eating and drinking which accompanies it—"such baking, boiling, roasting, and stewing." The scene is altogether most exhilarating; and "after supper a fire of fir-wood as high as an indifferent May-pole." But his welcome, when the hunting was over, in fair and stately houses, was as congenial as the banquets of the field. At Balle Castle there were threescore dishes at one board; with a train of footmen and horses daily feeding that must have exhausted the land like an invading army. His whole stay in the Highlands was five and thirty days; and at length he returned to Edinburgh, where, he says, "I stayed eight days to recover myself of falls and bruises which I received in my travel in the Highland mountainous hunting." At Leith he meets his "long approved and assured good friend Master Benjamin Jonson;" and it is delightful to have it recorded that the fine generous old dramatist gave his humble brother "a piece of gold of two and twenty shillings to drink his health in England." The pilgrim took a less wearisome mode in his progress back to London. He was invited by one of his Scotch friends to ride in his company, and to be provided by him with everything on the road. The waterman was, no doubt, a most amusing fellow, full of quaint and original observation, as his book shows him to be; or he might have fared worse, in spite of the hospitality of that age. We conclude with his general description of the hospitality of Scotland, which is as curious and withal as pleasant a picture of the old times as it has been our fortune to meet with. We do not remember to have seen any reference to the more remarkable passages in the 'Pennyless Pilgrimage,' by any recent author. Probably Scott was familiar with it; but if so, we think he would have mentioned the deer-hunt and the description of old house-keeping.

"I am sure that in Scotland, beyond Edinburgh, I have been at houses like castles for building; the master of the house, his beaver being his blue bonnet, one that will wear no other shirts but of the flax that grows on his own ground, and of his wife's, daughters', or servants' spinning; that hath his stockings, hose, and jerkin of the wool off his own sheep's backs; that never (by his pride of apparel) caused mercer, draper, silkman, embroiderer, or haberdasher to break and turn bankrupt: and yet this plain homespun fellow keeps and maintains thirty, forty, fifty servants, or perhaps more, every day relieving three or four score poor people at his gate; and besides all this, can give noble entertainment for four or five days together to five or six earls and lords, besides knights, gentlemen, and their followers, if they be three or four hundred men and horse of them, where they shall not only feed, but feast, and not feast, but banquet: this is a man that desires to know nothing so much as his duty to God and his king, whose greatest cares are to practise the works of piety, charity, and hospitality: he never studies the consuming art of fashionless fashions; he never tries his strength to bear four or five hundred acres on his back at once; his legs are always at liberty, not being fettered with golden garters and manacled with artificial roses, whose weight (sometime) is the reliques of some decayed lordship. Many of these worthy housekeepers there are in Scotland; amongst some of them I was entertained; from whence I did truly gather these aforesaid observations."

The return of the Water-poet to London is characteristic of the man and of the age. The reluctance with which he goes back to his business exhibits much of the ease of mind which belongs not to our days of inveterate competition. He sneaks into London, after being absent three months, to a house within Moorgate, where he borrows money; and then returns to

his inn at Islington, where he jovially stays two more days, on the last of which his friends come out to meet him, thinking he had just returned from his pilgrimage. "With all love I was entertained with much good cheer; and after supper we had a play of the 'Life and Death of Guy of Warwick,' played by the Right Honourable the Earl of Derby his men."

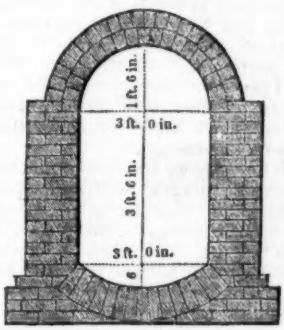
SEWERS.

[Concluded from page 403.]

WHILE such facts as the foregoing show that much has been done of late years in extending the benefits of underground drainage, there are still many densely peopled districts, both in London and in some of the principal provincial towns of the kingdom, which are either entirely without sewers, or in which the sewage is extremely defective. The witnesses examined in 1840 by the Committee on the Health of Towns brought forward numerous instances of this kind, in which the worst effects were produced on the health and morals of the people by the contaminated atmosphere and the filthy condition of the houses in which they are compelled to live. A Report on the Sanitary State of the Labouring Classes, by Dr. Southwood Smith, expresses a very strong opinion as to the injurious effect of deficient drainage; and so intimate does that gentleman conceive its connection to be with the presence of disease, that he observed, in his evidence before the committee alluded to, "If you were to take a map and mark out the districts which are the constant seats of fever in London, as ascertained by the records of the Fever Hospital, and at the same time compare it with a map of the sewers of the metropolis, you would be able to mark out invariably, and with absolute certainty, where the sewers are, and where they are not, by observing where fever exists; so that we can always tell where the commissioners of sewers have not been at work by the track of a fever." For instances to bear out this assertion, the reader is referred to the evidence itself, in which many scenes are described that are too filthy and disgusting for repetition; and abundant proof is given that the evils complained of are as debasing to the character as they must be destructive to the health of the poorer classes; for, as remarked by Dr. Arnott, "where filth is unavoidable, it makes people careless of making a little addition to it; it does not shock their feelings as if all was clean."

As sewers are, from their peculiar situation and use, more difficult to examine and repair than many other structures of brickwork, while a defect may be productive of very serious injury before it attracts notice, it is especially desirable that they should be constructed in the most perfect and durable manner; while the necessity of providing for the passage of water from existing branches, and from such as may be constructed at a future time, requires great care in adjusting the dimensions, inclination, and level. All the sewers constructed by the metropolitan commissions of late years are of such dimensions as to allow a man to pass through them, for the purpose of inspecting or cleansing them. From a statement in the Appendix to the Report of the parliamentary committee of 1834, it appears that the smallest sewers in the City of London division are about four feet three inches high by two feet three inches wide, the dimensions being increased, according to circumstances, up to eight feet six inches by seven feet, which are the general dimensions of the new sewer from Moorfields to London Bridge, although at the mouth it is increased to ten feet by eight feet. The water brought down by the Fleet Ditch is conducted from Holborn Bridge by two sewers, from twelve to fourteen feet high, and six feet six inches wide, one on each side of Farringdon Street. These sewers unite, towards the mouth, into one passage about eighteen feet by twelve; and even that, the surveyor states, is sometimes insufficient to carry off the water. When a storm occurs at high-water, the quantity brought down by the Fleet Ditch will, he says, raise the water in the lower part of the sewer five feet almost instantaneously; and under such circumstances, the water has been occasionally forced up through the communicating drains, so as to flood the surface. In the district under the management of the Westminster commission, the common sewers are built of the form represented by the annexed transverse section, which represents, on a scale of a quarter of an inch to a foot, a sewer of the larger sort, the greatest height being five

Fig. 1.



feet six inches, and width three feet. Smaller sewers are made of the same form, but only five feet high, and two feet six inches wide. The regulations for building sewers, issued by the commissioners, require that the bricks used be "good, square, hard, sound, and well-burnt stock bricks, and be properly laid in well-compounded mortar, made of one part of good strong stone lime, and two parts of clean river sand; the workmanship to be of the best description, the bricks of each arch to be well bonded, and the bricks of the arch at the bottom of the sewer to be laid close at the top edge, and to an even curvature on the upper surface, bedded in mortar and grouted." It is further ordered that when Roman cement shall be used in the works, "it shall be of the best quality, and shall not be mixed with more than one-half of clean river sand." This form of sewer has been, we believe, generally adopted in London; but Mr. Roe, surveyor to the Holborn and Finsbury commission, who has introduced several important improvements in the construction and management of sewers, has suggested that it is a form not calculated to give the greatest strength, and states that

Fig. 2.

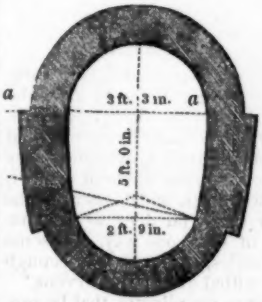


Fig. 3.

The sides of these sewers form curves of large radius, struck from centres on the line *a a*; the radius for the larger size being about thirteen feet, and that of the smaller size in proportion.

in some cases the sides have given way to the pressure of the earth behind them. He therefore prefers an oval form, as represented in *Figs.* 2 and 3, which are copied from the regulations recently issued by the commissioners for the construction of new sewers and drains. These are drawn to the same scale as *Fig.* 1. The part in which the joints are marked in the cut is, according to the directions, to be worked in blocks with cement.

The regulations of this commission require that every main or leading sewer "which may receive the sewage from streets and places containing more than two hundred houses, shall be of an oval form, five feet in height, and three feet in width in the clear; the invert thereof to be worked one brick in substance, and the springing walls thereof to be worked one brick and a half in substance, and bonded, and the crown thereof one brick in substance, in two separate half-bricks," conformably with the transverse section copied in the preceding cut, *Fig.* 2. All branch sewers which may receive the sewage from streets containing less than two hundred houses, are required to be four feet six inches in height, and two feet six inches in width in the clear; the whole being worked one brick in substance, the bottom and springing walls being bonded, and the crown worked in two separate half-bricks. The section of this, which is called the second size, is represented in *Fig.* 3. Mr. Roe states, in the paper in which this new form of sewer is recommended, that its adoption would effect a saving of one shilling and sixpence per lineal foot in sewers of the first size. The expense of building sewers of course varies greatly, according to their depth and other contingent circumstances; but in 1834 (before Mr. Roe's improvements were introduced), the average cost of the larger sewers in the Holborn and Finsbury divisions was stated to be from twenty to twenty-five shillings per foot, and of the smaller sewers from twelve to fifteen shillings per foot. In the Tower Hamlets district, the ordinary dimensions, as stated to the committee of the House of Commons in 1834, are four feet six inches by three feet for the larger, and four feet by two feet six inches for the smaller sewers. The inverted arch which forms the bottom of a sewer, besides adding to its strength, is useful in increasing the force of the current, and enabling it to carry away the ponderous matter that would otherwise settle and choke up the sewer. In the evidence before the committee on the Health of Towns (p. 127), Mr. Newman, one of the surveyors of the Surrey division, stated that the badness of the soil in that district, and the existence of quicksands, increased the difficulty and expense of constructing the sewers, and rendered necessary the adoption of cast-iron bottoms.

The inclination of sewers must vary greatly in different districts, but should always, if possible, be sufficient to enable the water to run freely, and to carry off the solid matter that usually enters with it. The regulations of the Holborn and Finsbury commissioners require that the inclination "be not less than one-fourth of an inch to every ten feet in length, and as much more as circumstances will admit, in those portions that are in a straight line; and double that fall in portions that are curved." Those issued by the Westminster commission in 1836, state that the current required for sewers, in all cases, is one inch and a quarter to every ten feet in length; but probably this has been ascertained to be a greater inclination than is necessary, as the more recent regulations order "that the current of all sewers to be built be regulated by the commissioners according to the surface required to be drained," without specifying any particular inclination. These also require that, where the situation will admit of ample fall and depth of sewer, there shall be at least three feet of depth between the upper part of the crown of the arch and the surface of the road. In some cases it is very difficult to obtain sufficient inclination in a sewer, and still to make it deep enough to drain the basement story of neighbouring houses, which may be readily conceived from the fact that some parts of London are below the level of high water. Considerable portions of the district comprised in the Surrey and Kent commission of sewers, by which the drainage of the whole of London south of the Thames is effected, are below that level; and the surveyor of the Tower Hamlets commission states that in some parts at Wapping the pavement is five feet below the high-water mark of the Thames. ('Report on Health of Towns,' p. 125.) The greater part of the district drained by the Blackwall or Poplar commission would be inundated but for the river walls; so that in this division the duties of the commissioners consist, as intimated by the old laws relating to sewers, as much in the maintenance of embankments as in making provision for drainage. To prevent the tide from entering sewers that drain low ground, it is necessary to close their lower ends with heavy flaps, which are opened by the attendants, or flap-keepers, at proper times, so as to allow free exit for the sewage at low-water. Wherever it is practicable, new sewers are built at a considerable depth from the surface. The depth of that in Watling Street, in the city of London, which is an extraordinary case, is from thirty-three to thirty-five feet. Some difficulty not unfrequently occurs in crowded districts, where deep and capacious sewers are especially needed, owing to the danger attending their construction. In many cases, particularly in the older streets of the city, it is necessary to shore up the houses by a massive frame-work of timber, to prevent their falling while the sewer is in progress; and in some instances it has been considered unadvisable, solely on this account, to attempt their construction, even where they were much needed. The want of sewers in some parts of London obliges the inhabitants to use force-pumps to relieve their cesspools, a practice which, besides being very expensive, is injurious to health, as the filthy water so pumped out runs along the open gutters until it reaches a gully-hole. This operation is performed at night, by which the evil is rendered less apparent; and it has been proposed, in some cases, to lay an iron pipe beneath the foot pavement to carry off the water so pumped out, that it might not run on the surface.

It is highly desirable, where a sewer must deviate from a straight line of direction, to effect such deviation by means of regular curves; and also to make branch sewers enter the main line by a curved instead of an angular junction. Mr. Roe ascertained, by experiment, that the time occupied in the passage of an equal quantity of water along similar lengths of sewer with equal falls, was as follows:—

Along a straight line . .	90 seconds.
With a true curve . .	100 „
With a turn at right angles .	140 „

It is therefore evident that the occurrence of angular or ill-formed turns in a sewer must have a similar effect to diminishing its capacity, as such parts of the sewer will not pass so much water as the straight parts; and it also has the disadvantage of occasioning the deposition, in the form of sediment, of matter that would otherwise pass off with the water. This evil may be met by giving a greater fall to curved than to straight portions of the sewer. The new regulations of the Holborn and Finsbury commissioners, in which the improvements of Mr. Roe are embodied, require that the curves in sewers passing from one street to another, or where a turn is required, shall be formed

with a radius of not less than twenty feet, and that the inclination or fall shall be increased at the junction.

Where private drains are to be laid into a sewer for the purpose of draining houses, it is necessary that the lowest pavement or floor of the building be at least four feet above the level of the sewer, measuring to the bottom of the side wall, or commencement of the invert; because the house would otherwise be liable to be flooded with water from the sewer, when unusually full. The regulations for private drains, issued by the Westminster commission, require that the bottoms of such drains shall be twelve inches above the bottom of the sewer with which they are intended to communicate, and recommend that they have a fall of at least a quarter of an inch in a foot. This fall, in a length of sixty feet, amounts to fifteen inches, by adding to which thirteen inches for the height of the drain and brick arch over it, eight inches for the depth of ground and paving over the upper end of the drain, and twelve inches between its lower end and the bottom of the sewer, we obtain the necessary total fall of four feet. The Holborn and Finsbury commissioners require a space of two feet between the bottom of the drain and the bottom of the sewer; but the total difference of level between the sewer and the basement floor is only two inches greater than that mentioned above; the prescribed fall being only a quarter of an inch in a yard, or five inches in a length of sixty feet. To prevent injury to the sewers, it is always required that the brick rings at the junctions of private drains, and about three feet of the drains themselves, shall be made by the commissioners; a fixed price being paid to them by the individual for whom the drain is constructed. The metropolitan commissioners of sewers are required to furnish builders, on application, with information as to the lowest level to which they can supply the means of drainage; but, under the present state of the law, they have no power to prevent the excavation of ground for buildings, or the formation of cesspools, to a greater depth than can be drained by the sewers; although they may refuse permission for the construction of private drains opening into the sewer in such cases. The disinclination evinced by many proprietors of houses to avail themselves of the facilities offered by the construction of new sewers, for improving the drainage of their property, is truly surprising, and shows how imperfectly the advantages of good sewerage are appreciated. A remarkable case was mentioned to the Committee on the Health of Towns, in which a new sewer nearly a mile and a half long had been made, in the parish of Camberwell, on the urgent application of the inhabitants, and yet only one application had been made for a private drain in the whole distance. Drains leading from private houses are usually of a circular form, and nine inches in diameter, though some are of greater size. In this, as in almost every other point of detail, the various metropolitan commissions are far from being uniform. While the Holborn and Finsbury commissioners will not allow, except in special cases, a private drain of more than nine inches in diameter, those for the Tower Hamlets allow nothing under twelve inches, and admit drains of fifteen or even eighteen inches diameter.

The construction of gully-holes and shoots for conducting the surface drainage of the streets into the sewers, and a variety of other matters, vary considerably in the different commissions. It has been usual in all, until very recently, to make apertures or *manholes* at convenient distances, to enable persons, when necessary, to enter and cleanse the sewers. In the regulations of the Westminster commission, it is ordered that these apertures be formed at or near to every intersection of the sewers, and also that they be at distances not exceeding one hundred and eighty feet from each other. They are built in the form of oblong shafts of brickwork, up to within about eighteen inches of the surface of the road, and covered with cast-iron plates, over which the roadway is made good. The inconvenience attending the use of these apertures, in order to open which it is necessary to break up the carriageway, might be avoided by the general adoption of side-entrances, which form an important feature of the improved system now being introduced in the Holborn and Finsbury commission. These are passages extending from the side of the sewer to the foot-pavement, through which they may at any time be entered by unlocking and opening a cover or trap-door, consisting of pieces of flagstone mounted in an iron frame. When a person enters the sewer by one of these openings, the cover is held open by a self-acting catch, and an iron-grating, which admits light and air, rises into its place, and serves to prevent any passenger from accidentally falling in. It is proposed in some cases to combine the side-entrances with the gully-holes, by which some expense may be saved. The advantages of an easy access to the sewers at all times are very great; and the positive saving of expense by the adoption of this system is expected, as appears from the Report in which it is recommended, to be considerable.

The last-mentioned improvement is intimately connected with another, which promises to be of great value—a method of cleansing sewers by using water in *flushes*. A great quantity of solid matter enters the sewers with the water which they are intended to carry off; and as their current is usually very trifling, it is deposited in the form of a sediment. This takes place especially at the points of junction of branch sewers, gullies, and private drains; and it has often happened that the deposit has gone on accumulating until it has reached the level of the private drains, the consequent choking up of which has given the first intimation of the state of the main sewer. Besides the injurious effect of this accumulation of filth upon the health of persons residing near the sewer, such a state of things is productive of great expense, it being sometimes necessary to break up the road, and open and rebuild both the sewer and, occasionally, the drains opening into it. But the evil does not rest here; for it has been a common practice to spread the deposit of filth on the surface, instead of carting it away, whereby its noxious effluvia have become productive of disease to the neighbourhood. Although in general the current of water in the sewers is not sufficiently rapid to carry off this solid matter, Mr. Roe, conceiving that it might be made so by damming it up, and then letting it off in flushes, tried a series of experiments on the velocity of water in sewers when dammed up to various heights, by which he found that he could, by a head of water varying from ten inches to four feet, obtain a velocity of from thirty to eighty-six inches per second. The power of running water is stated to be such, that a velocity of three inches per second is sufficient to enable a current of water to tear up fine clay; and that a stream running at the rate of three feet per second will tear up beds of loose stones of the size of an egg. It is therefore evident that, by a moderate head of water in a sewer, a current may be produced of sufficient force to tear up and carry away a considerable deposit of sedimentary matter. The average annual deposit is stated to be nearly an inch and a half in thickness—a quantity which might be readily removed by flushing once a year only; but far better by repeating the operation, as it is proposed to do, three or four times in a year, which will prevent its ever accumulating in considerable quantity. To show the effect of the operation in practice, we quote the particulars of three experiments, from a report presented by Mr. Roe to the commissioners:—

1st Experiment. Water backed up 70 feet; head, 13 inches; quantity, 26 hogsheads; which, when let off, cleared away rather more than 1½ inch of deposit from 370 feet of sewer, having a fall of a quarter of an inch in each ten feet, and being the whole length that needed cleansing.

2nd. Head of water, 18½ inches; quantity, 45 hogsheads; cleared away 1½ inch of deposit from 300 feet of sewer; part of the bottom on a dead level.

3rd. Head of water, 10 inches; quantity, 20 hogsheads; deposit heavy; flush cleared away 1½ inch from 330 feet of sewer.

The necessary head of water is produced by simply accumulating the ordinary contents of the sewer, which may be done either by a cast-iron gate, fitting closely to a frame-work built into the sewer, and rising to the height that the head is required to be, or by a drop plank or gate of the same material, sliding up and down in nearly vertical grooves. In either case the apparatus may be managed, by means of the side entrances before alluded to, with the greatest facility. The drop plank may, it is stated, be drawn up in two seconds and a half, and the gate may be thrown open in less than one second; and, as the height of each head is regulated by the level of the private drains near it, no injury is done if the water rise to the top of the gate, so as to run over it, before the attendant is ready to let it off; so that one person is enabled to set a number of stop-gates, and return to let them off in succession. In the report alluded to, Mr. Roe gives a detailed calculation to prove the superior economy of this plan of cleansing, and concludes his recommendation of it by observing "that irrespective of any saving to be effected by flushing the sewers with water, he considers that the prevention of a large quantity of foul deposit from remaining in a state of fermentation for years together beneath the streets, and the consequent removal of a great cause of offensive effluvia, together with avoidance of large quantities of slop being laid out on the surface (as is the case in the ordinary mode of cleansing), would be benefits of such worth as to warrant the utmost use of stop-planks and water for keeping sewers free from deposit." The ordinary run of water in the sewers has hitherto been found sufficient for the purpose; but in case of its proving otherwise, a supply of water for flushing might be readily procured from the water companies.—*Penny Cyclopædia.*

THE SIROCCO OF THE MEDITERRANEAN.

THE islands situated near the southern extremity of Italy, especially Sicily and Corfu, are frequently visited by a wind of a remarkable character, to which the name of Sirocco, Scirocco, or Schirocco, has been applied. It blows from a point of the compass a little to the southward of south-east, and therefore not far distant from south.

Sicily appears to be the spot where this wind is experienced in its greatest force. Brydone has given a vivid description of the effects produced by it; and although he has been accused of distorting the truth in other matters, yet the observations of more recent travellers seem to confirm his remarks concerning the Sirocco. Brydone describes this wind, as experienced by him at Palermo in Sicily, as being singularly heating, relaxing, and oppressive in its effects; not much unlike the subterranean sweating-stoves at Naples, but hotter. In a few minutes, those who are exposed to it find every fibre relaxed in a strange degree, and the pores are opened in such a manner as to lead to the expectation of a profuse perspiration. The thermometer rises to a great height, but the air is generally thick and heavy. It seldom lasts more than thirty or forty hours at one time; but during that period the people confine themselves within doors; the windows and doors are shut close, to prevent as much as possible the external air from entering; and where window-shutters are wanting, the inmates hang up wet cloths in the inside of the window. In the better sort of houses, servants are employed in sprinkling water through all the apartments to cool the air. Notwithstanding the scorching heat of the sirocco, it is seldom known to produce any epidemical disorder in Sicily, or to do any injury to the health of the people; they feel indeed very weak and relaxed after it; but a few hours of the *tramontane*, or north wind, which generally succeeds it, soon braces them up again, and restores them to their former state.

There are peculiar circumstances attending this wind, which have led some persons to identify it with a scorching wind experienced on the opposite coast of Africa, situated at no great distance from Sicily. On this point Dr. Benza, an Italian physician, states:—"When the sirocco has been impetuous and violent, and followed by a shower of rain (as is almost always the case), the rain has carried with it to the ground an almost impalpable red micaceous sand, which I have collected in large quantities more than once in Sicily. This sand fell abundantly at Palermo in 1811; and in March, 1819, when I was on a visit to my friends, it fell in such a quantity in the interior of the island, that I collected more than three ounces of it. The appearance of this sand is quite different from what is found either in Sicily or Malta; and I see nothing paradoxical in admitting (seeing its impalpable state, and the short distance it has to travel) that it has been carried over from Africa by the violence of the wind, and, when this ceased, to have fallen down with the rain."

When we direct our attention to the island of Corfu, situated some distance eastward of Sicily, we find the sirocco assuming a somewhat different character. When compared with the sirocco of Sicily, and particularly of that part of the island where Palermo is situated, the more eastern sirocco might be called a refreshing breeze; yet it is accompanied with other circumstances which make it more deleterious to the human frame, especially in reference to the moisture with which, unlike the Sicilian sirocco, it is loaded. All winds blowing between south and east have, in these islands, more or less of the sirocco character; but the genuine or *black* sirocco (as it is called) blows from a point between south-east and south-south-east; and of this sirocco, as experienced at Corfu, Dr. Hennen ('Medical Topography of the Mediterranean') states the characteristics to be as follows:—Without affecting the thermometer or barometer in any remarkable degree, the sirocco almost invariably gives the sensation of burning heat and oppression at the chest, accompanied with languor and a propensity to perspire with the slightest exertion. Almost every individual is more or less sensible to these effects; some, who have felt them but slightly on their first arrival, have become exquisitely sensible to them after some time; many can foretel the approach of a sirocco some hours before it begins to blow, by the peculiarities of their feelings; and there are few indeed who cannot at once decide that this wind has commenced without making any reference to external objects; but it is by the sick and the weakly convalescent that its depressing effects are most severely experienced. It has been particularly remarked that wounds and diseases of the skin generally deteriorate during the prevalence of a sirocco; and also, that if vaccination or inoculation be performed at this period, they are extremely liable to fail; and indeed if they succeed, the progress of the pustule is often suspended, ten or twelve days often elapsing before it reaches that state commonly attained in six or eight.

Dr. Hennen remarks, "That the southerly wind in general, and this modification of it in particular, is unfavourable to the health and spirits of man, is an opinion upon which all classes of persons with whom I have conversed throughout the Mediterranean are unanimous. All the ancient physicians who have written upon Mediterranean diseases, from Hippocrates downwards, give their testimony to the same effect, and speak of the pestilential nature of the southerly wind as perfectly familiar."

The sirocco of Corfu produces many curious effects in relation to the domestic and other arrangements of the Corfiotes. Bakers diminish the quantity of their leaven during the sirocco, as dough is found to ferment sufficiently without it. No carpenter uses glue in the sirocco, for it does not adhere. No painter willingly exercises his vocation at this period, for his paint will not dry; indeed the natives assert that if paint, applied during a sirocco, *does* happen to dry by intense heat and a change of wind, it always oozes again on the return of the sirocco; and Dr. Hennen once found that paint, applied to some articles of his own at this period, remained for three months as wet as when it was first applied. The walls of houses, stone floors, and pavements invariably become moist when the sirocco blows. The stone floors in the town of Corfu are sometimes absolutely wet at this time, without any rain having fallen; and gentlemen who have made hygrometrical experiments state that the instrument has frequently fallen from ten to twenty degrees during the prevalence of this wind. Although this sirocco, unlike that of Sicily, is so charged with moisture, yet vegetables, especially that part of them exposed to its action for any length of time, appear quite shrivelled and burnt up, and very frequently they are destroyed altogether. Wine, bottled during a sirocco, is greatly injured and often destroyed. Meat taints uncommonly soon during its prevalence; and a prudent housekeeper never salts meat at this time, for it either becomes tainted at once, from not receiving the salt, or else it keeps very badly.

Several theories have been promulgated as to the cause of the phenomena connected with this wind, but at present the subject is surrounded with so many difficulties, that any certain conclusions cannot yet be safely made. The phenomena must be closely examined by accurate observers, in different places, at different times, and in different modes, before materials for grounding a correct explanation can be found.

CHAUCER'S PORTRAIT GALLERY.

THE WIFE OF BATH.

THE masculine character of "this fair but not bashful pilgrim," as Mr. Todd calls the Wife of Bath, is happily shown by the artist of the drawing in the Sutherland manuscript, who represents her, like the prioress and the nun, on horseback; but not, like them, riding in the modern way. At the same time he has remembered she *was* fair, and accordingly represented her with a very winning countenance, which is finally set off by her remarkably large and broad black hat. Her wimple is not unlike what we should call a mob-cap. Her fote-mantel, or outer petticoat, is blue, and is bound round the hips by a golden girdle, from which it falls over her feet, so as to hide the scarlet "hosen." One of her spurs alone is there visible. The stirrup of her saddle is gilded, and she holds in her hand a whip. From such a picture our reader will expect an original of some wealth and consequence; and the Wife of Bath, as Chaucer has described her, will not disappoint them:

"A good wife was there of beside Bath;
But she was somdel deaf, and that was scathe*;
Of cloth-making she had such a haunt†,
She passéd them of Ipres and of Ghent.
In all the parish, wife ne was there none
That to the off'ring before her shouldé gone;
And if there did, certain so wroth was she,
That she was out of alle charity.
Her coverchiefs weren full five of grund:
I durste swear they weigheden a pound,
That on a Sunday were upon her head.
Her hosen were of fine scarlet red,
Full strait ytied, and shoon full moist‡ and new:
Bold was her face, and fair, and red of hue.
She was a worthy woman all her live:
Husbands at the church-door had she had five,
Withouten other company in youth;
But thereof needeth not to speak as nouthe§.
And thriés had she been at Jerusalem.
She hadde passéd many a strange stream.
At Romé she had been, and at Bologne,
In Galice at St. James, and at Cologne;
She coulde much of wand'ring by the way.
Gat-toothed was she soothly for to say.
Upon an ambler easily she sat,
Ywimpled well||, and on her head a hat
As broad as is a buckler or a targe.
A fote-mantel¶ about her hippes large,
And on her feet a pair of spurres sharp.
In fellowship well could she laugh and carp**.
Of remedies of love she knew perchance."

Bath, we need scarcely observe, was formerly very famous for its cloth manufacture. The cloth chiefly made in England at this early period was of a coarse kind, which was produced in sufficient quantity to export: the finer cloths it was usual to import, chiefly from Flanders. In 1261 an attempt was made by Henry III. to prevent the exportation of English wool, and to cause cloth of English manufacture alone to be used in this country, but with little success. Soon after this, a scarcity of woad for the purposes of dyeing occurred, and the unusual spectacle of persons of rank and wealth dressed in cloth of the natural colour of the wool was seen about the streets of our large towns. The great baron Simon de Montford professed to be an admirer of this simplicity in dress, and was accustomed to maintain that foreign commerce was unnecessary. His conqueror Edward I. appears to have had similar views, and to have adopted very vexatious modes of carrying them into effect; such, for instance, as issuing an order that all foreign merchants should sell their goods within forty days after their arrival.

In Chaucer's lifetime, Edward III. made an equally petty and annoying regulation, when he insisted upon a prescribed measure being adopted for all foreign cloths wherever made, and directed his "aulnagers" to seize for his use all those that should be found of different dimensions. From the little trait of her character given in the lines referring to her want of charity, if any of her female neighbours ventured to take precedence in going to "offerings" and other assemblages, we may be sure the Wife of Bath would look with no very favourable eyes on these foreign interlopers; indebted though she was, in common with all of her trade, to a couple of foreigners for the great extension of the English woollen manufacture which took place in the early part of the fourteenth century. Edward III. having made most advantageous offers to foreign cloth-workers and others, two weavers from

* Hurtful or bad. † Custom.
‡ Fresh. In the Manciple's prologue we have the word used in a similar sense to distinguish fresh from old ale.
§ Now. || Well covered about the neck with her wimple.
¶ Supposed to be a sort of riding petticoat.
** Talk or prattle.

Brabant came over in 1331, and settled at York. By their superior skill, and by their willingness to communicate what they knew to others, a great impulse was given to native talent and industry.

In mentioning the number of husbands the Wife of Bath has had, the poet incidentally refers to a curious old marriage custom. Formerly the bride and bridegroom stayed at the church porch during the earlier portion of the ceremony; and it was not till the clergyman reached the part which is now followed by his going up to the altar and repeating the psalm, that they entered the sacred edifice. "At the southern entrance of Norwich cathedral," says Warton, "a representation of the espousals, or sacrament of marriage, is carved in stone;" for here the hands of the couple were joined by the priest, and great part of the service performed. Here also the bride was endowed with what was called Dos ad ostium ecclesiæ. This ceremony is exhibited in a curious old picture engraved by Mr. Walpole, where King Henry VII. is married to his queen, standing at the façade or western portal of a magnificent Gothic church. The entire form of matrimony also, as celebrated at the church door, is described in certain Missals referring respectively to the cathedrals of Hereford and Salisbury.

We commenced the present series with some observations showing the comparative ease with which the difficulties attending the study of the works of the great Morning Star of our poetry might be overcome; and we trust our readers have partially, at least, experienced their truth. In dismissing the subject from our pages, we would once again impress upon all those whom Chaucer's wit, or humour, or marvellous delineation of manners and character, have delighted, and perhaps for the first time, that he cannot be thoroughly appreciated or enjoyed in any other dress than his own, and that there is really no sufficient reason for desiring that he should be. We have before given the testimony of the poet's admirable biographer Godwin to this effect; we now fortify our position still further with the evidence of the eminent historian of English poetry, Warton; whose remarks generally will be found deserving attentive consideration. With these we conclude:—

"Spenser copied the language of most of the elder English poets, but not without distinction; Chaucer was the source from whence he confessedly drew the largest draughts of the well of English undefiled. I cannot dismiss this section without a wish, that this neglected author, whom Spenser proposed as the pattern of his style, and to whom he is indebted for many noble inventions, should be more universally studied. This is at least what one might expect in an age of research and curiosity. Chaucer is regarded rather as an old, than a good poet. We look upon his poems as venerable relics, not as beautiful compositions; as pieces better calculated to gratify the antiquarian than the critic. He abounds not only in strokes of humour, which is commonly supposed to be his sole talent, but in pathos and sublimity not unworthy a more refined age. His old manners, his romantic arguments, his wildness of painting, his simplicity and antiquity of expression, transport us into some fairy region, and are all highly pleasing to the imagination. It is true that his uncouth and unfamiliar language disgusts and deters many readers; but the principal reason of his being so little known and so seldom taken in hand, is the convenient opportunity of reading him with pleasure and facility in modern imitations. For when translations, as such imitations from Chaucer may be justly called, at length become substituted as the means of attaining a knowledge of any difficult and ancient author, the original not only begins to be neglected and excluded as less easy, but also to be despised as less ornamental and elegant. Thus the public taste becomes imperceptibly vitiated, while the genuine model is superseded, and gradually gives way to the establishment of a more specious, but false, resemblance. Thus, many readers, happy to find the readiest accommodation for their indolence and illiteracy, think themselves sufficient masters of Homer from Pope's translation; and thus, by an indiscreet comparison, Pope's translation is commonly preferred to the Grecian text, in proportion as the former is furnished with more frequent and shining metaphors, more lively descriptions, and in general appears to be more full and florid, more elaborate and various."—Warton's *Essay on Spenser's Fairy Queen.*

[Portrait of Chaucer.]